

N. C., Dec. 7, 1868; as all evidences of the general movement of the Atlantic seaboard are valuable:

In the bottom of all our fresh water rivers and creeks there are large tracts of the bottom covered with cypress stumps and knees precisely as they grew and undecayed, precisely as they are now above the tide in our swamps. These stumps and knees are now from 6 to 8 feet below the tide level; the land must have sunk since they grew. Again, all along the waters of Pamlico sound, where the farms, even in the memory of middle-aged men, were extremely rich, the tide has submerged them, and they will not now produce in some instances even grass, and the people say the tides rule higher than in old times. Again, the shores are washing away everywhere, and making nowhere. So that at least on the shore line of Pamlico sound, there are at least 500 or 1000 acres taken possession of by the sound every year. Again, in cutting a canal to drain Mallamusket lake into Alligator river, a powerful dredge was used, and some three feet below the tide level, they took up a layer of pine stumps, and immediately below these another layer was taken up, and below these still another layer, showing conclusively to my mind that the land for many ages has been, as now, about level with the tide; and the accumulation of vegetable matter compensates for the sinking. Pine will never rot if always under fresh water. We have here also 8 lakes, some 20 miles long, and from that down to 3 or 4, the lands around which for miles are a dead level, and none of them with a regular natural outlet.

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*On the Shower of November, Meteors as observed at Bloomington, Indiana, November 13-14, 1868.*

BY DANIEL KIRKWOOD, L.L. D.

The Shower of November Meteors has been this year unexpectedly brilliant. Unfortunately, I was unable to watch the display; but during three hours on the morning of the 13th, Prof. T. A. Wylie, D. D., observed 165. A considerable proportion of these were unconformable. The number, however, radi-

ating from Leo, was sufficient to indicate the commencement of the shower. Remembering that Humboldt, in 1799, had seen a number of meteors after sunrise, I took a position at 8 o'clock, A. M., on the west side of a building (in the shade), and watched the vicinity of the radiant, in the hope of observing some of the largest meteors. Glimpses of 5 or 6 were, as I thought, actually obtained, when, in order to guard against optical deception, I called Mr. Allison Maxwell, a tutor in the State University, who watched about 15 minutes. This gentleman reported that he saw *one* beyond doubt, and three others less certainly. I mention the case as being the first since the commencement of the present century, in which meteors of the November stream have been (probably) seen in the daytime.

On the night of the 13th, a committee of the senior class in the university kept watch from eleven o'clock, P. M., till 4 h. 15 m., A. M., when, having counted 2500, they adjourned. The maximum was about 3 h. 30 m.: 900 meteors having been counted during the 45 minutes immediately preceding. Many of the meteors were very brilliant, leaving long trains, some of which continued visible several minutes. Three or four were observed to explode, or separate into several fragments. No sound, however, was in any case perceived.

At 4 h. 55 m. (40 minutes after the committee at the university adjourned), Prof. Wylie commenced observing at his residence, and continued his watch until 6 h. 11 m., counting 780 in 1 h. 16 m. The whole number therefore actually counted in 6 h. 31 m. was 3280. A portion of the heavens was at times overcast with clouds; especially was this the case shortly after 4 o'clock, when the committee of students adjourned.

At frequent intervals throughout the night a lull occurred in the display; while at other times for a few seconds the meteors were so numerous that they could scarcely be counted.

A remarkable feature in the shower of the present year is its duration. As seen in Europe in 1866, and in this country in 1867, the display was limited to 3 or 4 hours. On the present occasion, however, it commenced on the night of the 12th, and had not ceased at daylight on the morning of the 14th. This would indicate considerable irregularity in the thickness of the stream.